

**WHAT IS CLAIMED IS:**

1. A method for controlling a mode of a coded voice signal in a base station transmitting/receiving the coded voice signal in a mobile communication system, the method comprising the steps of:

5           i) determining whether or not it is necessary to convert the mode of the voice signal based on a predetermined criterion;

10           ii) transmitting a mode conversion request message if it is necessary to convert the mode of the voice signal; and

15           iii) receiving a response signal representing a mode conversion state of the voice signal in response to the mode conversion request message.

2. The method according to claim 1, wherein the mode conversion request message or the response signal is transmitted through an A2p-frame with an in-band signaling scheme.

15           3. The method according to claim 1, wherein the mode conversion request message or the response signal is transmitted through an AMP-frame with an out-of-band signaling scheme.

20           4. The method according to claim 1, wherein the base station includes information related to a time for determining a mode conversion of the signal, which is previously determined.

25           5. The method according to claim 1, wherein, in step ii), if it is necessary to convert modes of signals for all subscribers, the base station transmits a signal requesting a mode conversion to other base station through a mobile switching center emulator connected to the base station.

30           6. The method according to claim 1, wherein a criterion for conducting a mode conversion of the signal includes a predetermined number of call connection tries of subscribers, a power control status of a corresponding base

station, and a handoff of a mobile station.

7. The method according to claim 1, wherein the mode includes an SMV (selective mode vocoder) mode.

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8. A method for controlling a mode of a voice signal by using a media gateway provided in a mobile communication system, the media gateway having a vocoder supporting a plurality of modes with regard to the voice signal and conducting a mode conversion of the voice signal, the method comprising the steps of:

10 i) receiving a mode conversion request message with regard to the voice signal;

ii) determining whether or not it is necessary to convert the mode based on the mode conversion request message; and

15 iii) transmitting a mode conversion acknowledgement message if the mode conversion is determined.

20 9. The method according to claim 8, wherein the mode conversion request message or the mode conversion acknowledgement message is transmitted through an A2p-frame with an in-band signaling scheme.

25 10. The method according to claim 8, wherein the mode conversion request message or the mode conversion acknowledgement message is transmitted through an AMP-frame with an out-of-band signaling scheme.

11. The method according to claim 8, wherein the media gateway includes information related to a time for determining the mode conversion, which is previously determined.

30 12. The method according to claim 8, wherein, in step i), if it is necessary to convert modes of signals for all subscribers, the media gateway receives a signal requesting the mode conversion from a mobile switching center emulator

connected to a base station.

13. The method according to claim 8, wherein step ii) includes a substep of checking an identity of the mode conversion request message.

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14. The method according to claim 8, wherein the media gateway checks a message CRC of the mode conversion request message and notifies a base station controller of an error of the mode conversion request message.

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15. The method according to claim 1, wherein the mode includes an SMV (selective mode vocoder) mode.

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16. An apparatus for controlling a mode of a coded voice signal in a mobile communication system including a media gateway having a transcoder for coding a voice signal with a plurality of modes and converting the voice signal and a base station for receiving/transmitting the coded voice signal, the apparatus comprising:

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the base station determining whether or not it is necessary to convert a mode of the voice signal based on a predetermined criterion, and transmitting a mode conversion request message if it is necessary to convert the mode of the voice signal; and

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a media gateway receiving the mode conversion request message for the voice signal, determining whether or not it is necessary to convert the mode based on the mode conversion request message, and transmitting a mode conversion acknowledgement message to the base station if the mode conversion is determined.

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17. The apparatus according to claim 17, wherein the mode conversion request message or the mode conversion acknowledgement message is transmitted through an A2p-frame with an in-band signaling scheme.

18. The apparatus according to claim 16, wherein the mode conversion

request message or the mode conversion acknowledgement message is transmitted through an AMP-frame with an out-of-band signaling scheme.

19. The apparatus according to claim 16, wherein the media gateway includes information related to a time for determining the mode conversion, which is previously determined.

20. The apparatus according to claim 16, wherein, if it is necessary to convert modes of signals for all subscribers, the media gateway receives a signal requesting the mode conversion from a mobile switching center emulator connected to the base station.

21. The apparatus according to claim 16, wherein an identity of the mode conversion request message is checked in order to determine the mode conversion based on the mode conversion request message.

22. The apparatus according to claim 16, wherein the media gateway checks a message CRC of the mode conversion request message and notifies a base station controller of an error of the mode conversion request message.

23. The apparatus according to claim 16, wherein the mode includes an SMV (selective mode vocoder) mode.